Modeling The Relationship Between Consumer Discretionary and Staples Sector Prices and Non Durable Consumer Expenditures

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Study Objective

1. Determine the consumption function for non durable expenditures
2. Determine the functional relationship between non durable expenditures and consumer discretionary and staples sector prices

Research Approach

- Univariate regression analysis
- Time Period 2004-2013
- Data frequency: Quarterly
- Data sets:
    1. Personal income(PI)
    2. Non durable expenditures(ND)
    3. Consumer discretionary sector ETF (XLY)
    4. Consumer staples sector ETF (XLP)

Model Specification

- ND=A+B(PI)
- XLY=A+B(ND)
- XLP=A+B(ND)

Hypothesis

- For ND f(PI), B>0, TSTAT>2
- For XLY f(ND), B>0,TSTAT>2
- For XLP f(ND), B>0, TSTAT>2

ND(PI)

Time Period	Linear Model		
(years)	b	T Stat	R^2
2004-2008	0.185853	34.04121	0.986381
2009-2013	0.186883	19.11851	0.940801
2004-2013	0.187418	47.10967	0.981861

XLY(ND)

Time Period	Linear Model			Log Linear Model		
(years)	b	T Stat	R^2	b	T Stat	R^2
2004-2008	0.030528	6.270105	0.489505	0.420726	1.998584	0.199774
2009-2013	0.034755	11.50512	0.851964	4.494874	14.59581	0.902558
2004-2013	0.030528	6.270105	0.489505	1.530397	5.365067	0.412472

XLP(ND)

Time Period	Linear Model			Log Linear Model		
(years)	b	T Stat	R^2	b	T Stat	R^2
2004-2008	0.012599	8.469907	0.817642	1.012246	8.206051	0.808014
2009-2013	0.068793	6.78819	0.66705	2.623086	12.53315	0.872279
2004-2013	0.021952	12.46941	0.791334	1.593292	12.92049	0.802827

Findings

- ND Covaries with PI, B coefficient stable overtime
- ND predicts XLY price movements. B coefficient is significant and positive
- Elasticity coefficient for 09-13 is highly elastic
- ND predicts XLP. B coefficient increases overtime.
- Elasticity coefficient for 09-13 is highly elastic

Conclusion

- Consumption function positive and significant
- ND predicts sector price movement for XLY and XLP